Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1	Claim 1 (currently amended): A method for the
2	determination of an acoustic impedance Z, comprising the
3	steps of
4	- arranging a probe with a means for acoustic
5	stimulation and a microphone at the area to be
6	measured;
7	- sending out acoustic signals over said means and
8	receiving again over the microphone;
9	- transforming the received signals by the microphone
10	into electrical signals for input to an analysis
11	unit, in which the amount of the impedance.Z will
12	be determined;
13	- inputting a previously defined stimulation into a
14	twoport chain transfer matrix as a calculation
15	base for the impedance Z,
16	- wherein the voltage ratio between the stimulation
17	and the impedance is described as a dimensionless
18	transfer function in a form of a complex function
19	of the stimulation frequency;
20	- generating a series of acoustic calibration signals
21	by a number of known acoustic impedances covering
22	different calibration scopes by means of the
23	defined stimulation;
24	- recording the calibration signals received by the
25	microphone and merging the electric values

- together with the respective voltage values of 26 27 the stimulation for the evaluation of the results of the respective transfer functions; 28 merging together the transfer functions of the 29 calibration signals into a an over-determined 30 linear system of equations and solving the system 31 of equations for calculating two coefficients; 32 and 33 determining the impedance Ζ, calculated 34 by evaluating the transfer function under the defined stimulation by of the 36 use two 37 coefficients; and - the analysis unit outputting the determined 38 39. impedance Z to an external entity.
- 1 Claim 2 (original): Method of claim 1 wherein a
- loudspeaker is used as a mean for the acoustic stimulation.
- 1 Claim 3 (original): Method of claim 1 wherein the
- 2 over determined linear system will be solved in terms of
- 3 minimum squares.
- 1 Claim 4 (original): Method of claim 1 wherein at
- 2 least two different impedances are used.
- 1 Claim 5 (previously presented): Method of claim 1
- 2 wherein a combination of hollow bodies and small tubes with

- 3 defined dimensions and known impedances are used as
- 4 calibrating impedances.
- 1 Claim 6 (previously presented): Method of claim 1
- wherein a frequency generator is used for the stimulation
- 3 by generating a broad band signal of white noise.
- 1 Claim 7 (original): Method of claim 1 wherein the
- 2 transfer functions will be calculated by the division of
- 3 the measured auto power spectrum of the stimulation through
- 4 the average cross power spectrum between stimulation and
- 5 impedance to be measured.
- 1 Claim 8 (previously presented): Method of claim 1
- 2 wherein two series connected twoport chain matrices are
- used, wherein the microphone is arranged between the output
- 4 of the first twoport and the input of the second twoport.
- 1 Claim 9 (previously presented): Method of claim 8
- 2 wherein the elements of the two chain matrices are reduced
- 3 to three base parameters, which are evaluated by
- 4 measurements of at least three calibration impedances with
- 5 known impedances and the respective solution of the over
- 6 determined linear system of equations to further determine

- 7 the impedance to be measured by measuring of the transfer
- 8 function as a division between the stimulation and the
- 9 microphone signal by use of the base parameters.
- 1 Claim 10 (previously presented): Method of claim 9
- wherein the linear system of equations will be solved in
- 3 terms of minimum squares.
- 1 Claim 11 (previously presented): Method of claim 1
- wherein an acoustic resistor is arranged between the
- 3 stimulation and the microphone.
- 1 Claim 12 (previously presented): Method of claim 11
- wherein the sensitivity of acoustic resistor is optimized
- with respect to microphone errors.
- 1 Claim 13 (previously presented): Method of claim 1
- 2 wherein a frequency and/or impedance specific weighting of
- 3 the linear systems of equation is performed.
- 1 Claim 14 (currently amended): A method for the
- 2 determination of the acoustic impedance of cavities, such
- 3 as an ear in connection with a hearing aid, comprising the
- 4 steps of

- arranging a probe with a microphone and a speaker at 5 6 the area to be measured; - sending out acoustic signals over the speaker into 7 8 cavity and receiving again over the microphone; 9 - transforming the received signals by the microphone 10 into electrical signals and transferring them to 11 an analysis unit; 12 - using a previously defined stimulation input to a 13 14 twoport chain transfer matrix as a calculation base for the impedance Z, 15 - wherein the voltage ratio between the stimulation 16 and the impedance is described as a dimensionless 17 transfer function in a form of a complex function 18 of the stimulation frequency; 19 - generating a series of acoustic calibration signals 20 by a number of known acoustic impedances covering 21 different calibration scopes by means of the 22 23 defined stimulation; - recording the calibration signals received by the 24 microphone and merging the electric values 25 together with the respective voltage values of 26 the stimulation for the an evaluation of the 27 results of the respective transfer functions; 28 merging together the transfer functions of the 29 calibration signals into an over-determined 30 linear system of equations and solving the system 31 of equations for calculating and storing two 32 coefficients; and 33 - determining the impedance Z to be calculated by evaluating the transfer function by use of the 35 two coefficients; and 36

- outputting the determined impedance Z for use by an external entity.
 - Claim 15 (previously presented): Method of claim 14
 wherein two series connected twoport chain matrices are
 used, and wherein the microphone is arranged between the
 output of the first twoport and the input of the second
 twoport.

Claim 16 (canceled).

Claim 17 (previously presented): An apparatus for the 1 determination of an acoustic impedance comprising a probe, 2 a microphone, a speaker, and an acoustic resistor, wherein 3 said microphone is connected to said speaker via a channel, 4 and wherein said channel has an exit opening with said 5 acoustic resistor between said speaker and said exit 6 opening, wherein a connecting channel is built up within 7 the probe between the speaker and the microphone, leading 8 subsequently to the microphone into an adapter, which is 9 arranged in an unlockable fashion with a housing of the 10 probe. 11

- 1 Claim 18 (previously presented): Method of claim 1
- 2 for measuring the impedances of hearing devices, part
- 3 systems of hearing devices, shells of hearing devices, and
- 4 vents of hearing devices.
- 1 Claim 19 (previously presented): Method of claim 14
- 2 for measuring the impedances of hearing devices, part
- 3 systems of hearing devices, shells of hearing devices, and
- 4 vents of hearing devices.
- 1 Claim 20 (original): Method of claim 1 for measuring
- 2 the impedances in the field of quality control, preferably
- 3 the quality control of hearing device transducers, porous
- 4 bodies, membranes and textiles.
- 1 Claim 21 (previously presented): Method of claim 14
- 2 for measuring the impedances in the fields of quality
- 3 control of hearing device transducers, porous bodies,
- 4 membranes, and textiles.
- 1 Claim 22 (previously presented) Apparatus of claim 17
- 2 for the measuring of the impedances of hearing devices,
- 3 part systems of hearing devices, shells of hearing devices,
- 4 and vents of hearing devices.

- 1 Claim 23 (previously presented): Apparatus of claim
- 2 17 for the measuring of the impedances of hearing devices,
- 3 part systems of hearing devices, shells of hearing devices,
- 4 and vents of hearing devices.
- 1 Claim 24 (previously presented): An apparatus for the
- 2 determination of an acoustic impedance comprising a probe,
- a microphone, a speaker, and an acoustic resistor, wherein
- 4 said microphone is connected to said speaker via a channel,
- 5 and wherein said channel has an exit opening with said
- 6 acoustic resistor between said speaker and said exit
- 7 opening, for measuring the impedances in the field of
- 8 quality control of hearing device transducers, porous
- 9 bodies, membranes, and textiles.
- 1 Claim 25 (previously presented): Apparatus of claim
- 2 17 for measuring the impedances in the field of quality
- 3 control of hearing device transducers, porous bodies,
- 4 membranes, and textiles.
- 1 Claim 26 (previously presented): An apparatus for the
- 2 determination of an acoustic impedance Z comprising:
- a probe;

- 4 a microphone;
- 5 a speaker;
- an acoustic resistor arranged between the speaker and
- 7 an exit opening within a connecting channel connecting to
- 8 one of the microphone and an exit of the probe; and
- an analysis unit for receiving electrical signals from
- the microphone, and for determining an impedance Z, wherein
- 11 a series of acoustic calibration signals of a number
- of known acoustic impedances covering different calibration
- 13 scopes are generated by means of a predefined stimulation
- 14 for output by the probe for reception by the microphone,
- 15 and wherein
- the analysis unit comprises a function for solving an
- 17 over-determined linear system of equations in terms of
- 18 minimum squares by use of at least three of said acoustic
- 19 calibration signals.